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Consolidated Space Operations Contract

Network Control Center Data System (NCCDS) Release M00.2 System Test Test Plan

March 3, 2000

Effective: March 3, 2000

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Change Information Page

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Preface

This document, the Network Control Center Data System (NCCDS) Release M00.2 System Test Test Plan provides the technical approach for system testing Release M00.2. M00.2 is a maintenance release consisting of the implementation of Problem Reports (PRs) written against the NCC98 Initial Release, the SPSR 99.1 Completion Release, and the Network Control Center Data System (NCCDS) Release M00.1. M00.2 also consists of the implementation of NCC Change Requests (NCRs).

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Abstract

This document presents the test plan for system testing the Network Control Center Data System (NCCDS) Release M00.2 software. It contains the following:

a. Summary of the test schedule

b. Required system configuration, test data, and test tools

c. Description of the Problem Reports implemented in this release

d. Description of the NCC Change Requests implemented in this release

e. A matrix of the M00.2 release contents to test items

This document addresses the testing strategy for Release M00.2. The contents of this release are identified in the NCCDS Release M00.2 Contents Letter.

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Section 1. Introduction

1.1 Purpose and Scope

This document, the *Network Control Center Data System (NCCDS) Release M00.2 System Test Test Plan*, describes the testing approach for verifying that the software delivered with M00.2 fulfills its allocated requirements and system level functionality.

The scope of this document includes information regarding the system capabilities and configuration, the required test tools, and the test schedule.

This document will serve as the basis for the subsequent NCCDS System Test Plans for future maintenance releases and the System Test Reports for each of the maintenance releases that summarize system testing results.

1.2 Document Organization

Section 1 presents the purpose and scope of the test plan and identifies the organization of the document, assumptions and conventions, and governing standards and procedures applicable to this document.

Section 2 provides the system testing strategy. This includes the schedule of testing activities; personnel responsibilities; required system configuration, test data, and test tools; security requirements; archiving methodology; and problem resolution.

Section 3 identifies the system test cases and the detailed test items planned to verify the contents of Release M00.2.

1.3 Assumptions and Conventions

This test plan assumes that the reader has a basic understanding of the NCCDS configuration for the Release M00.2 and the NCC operational capabilities. Standard terminology, as applied to the NCC by NASA, is used whenever possible.

1.4 Standards and Procedures

NCCDS system test activities will follow all applicable CSOC and NCC standards and procedures. The purpose of these guidelines is to ensure the development of a highly available, reliable, and maintainable system.

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Section 2. System Testing

2.1 System Testing Strategy

System testing begins with planning that involves understanding the requirements, documenting the test approach at a high level in a test plan, and then documenting a detailed testing approach in test procedures that include identification of test data. The detailed test procedures are used to guide system testing. During system testing, the test team will redline the test procedures to reflect any necessary modifications. After the completion of system testing, a report will be written that discusses the test findings, documents the final test metrics, and identifies lessons learned.

2.2 Test Schedule

The following figure diagrams the schedule of M00.2 System Test activities:

ID	Task Name	Start	Finish
13	ST: Develop Test Procedures	1/24/00	2/25/00
14	ST: Functional Testing	2/28/00	5/19/00
15	ST: Regression Testing	5/22/00	6/9/00
16	ST: System Test Report	6/12/00	8/11/00

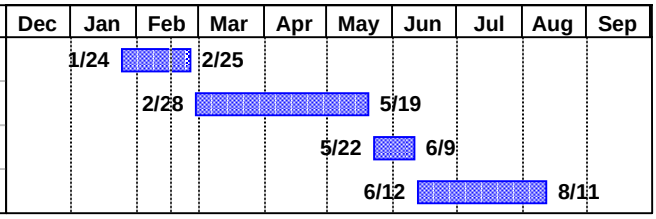

Figure 2-1. System Test Activities - Schedule

2.3 Roles and Responsibilities

The responsibility for performing the system-level testing for NCCDS Release M00.2 belongs to CSOC's NCC System Test Team. The team is responsible for writing test plans and procedures; participating in test procedure reviews; executing tests; identifying and submitting problem reports; recording test activities on the daily test summary and in individual test records; certifying high priority test records; collecting, monitoring, and reporting test metrics; and developing test reports.

2.4 Test Environment and Configurations

Test execution will be performed in the Test & Training facility (T&T) in Building 13 at GSFC. The Test Berth supports the full complement of components. It contains a two-node clustered environment similar to, but not the same as the three-node operational environment. For example, some differences are that the Test Berth does not have the Network and System Manager (NSM), the cabling is different, and it has slower LAN cards. For this reason, System Test is unable to verify problem reports related to areas such as reliability/maintainability/availability (RMA), performance, and security. Problem

reports that cannot be tested in the System Test environment will be tested by Operations Evaluation Testing (OET).

2.5 Test Data, Test Tools, and Special Equipment

Test data will be identified and/or created by the System Test team prior to the execution of each test item. The test data needed for executing each test will be specified in the test item. Test tools will include:

a. NTS – The NCC Test System (NTS) is used to simulate the external interfaces by receiving messages from and/or transmitting messages to the NCCDS. It also has message logging/delogging and block compare capabilities to help analyze test results.

b. NTS NPG – The NTS Network Protocol Gateway (NPG) is external to the NCCDS, but is within the domain of the NCC test berth and is logically located between the NTS and the NCC Firewall. The NTS NPG provides the capability to simulate TCP sites. It converts NTS 4800 bit blocks to TCP/IP format.

c. XRunner – XRunner is an automated Graphical User Interface (GUI) capture/replay test tool that is dynamically linked to the software to be tested. It simulates a tester/operator sitting at a workstation. This tool will be used to help conduct regression tests.

d. CDS – The Comprehensive Discrepancy System (CDS) is used to document and track the status of problems that are identified during all testing phases.

2.6 Security Requirements

System testing at NASA GSFC must adhere to the security rules found in NASA and NASA/GSFC management instructions, policies, requirements and guidance. Deviations and waivers require NASA management approvals.

2.7 Results Archiving

After a test item is completed, the following test material will be labeled and archived: daily test summaries and test records, which include redlined test procedures, test data references, delog listings and hard copies of windows, and copies of PRs generated during testing. The test records will be archived and used for future analysis, as comparison data for regression testing, and for reference during the planning and testing of future releases.

2.8 Problem Reporting and Resolution

Anomalies uncovered during system testing will be recorded as Problem Reports (PRs) in the Comprehensive Discrepancy System (CDS), which is a problem report tracking system. PRs will be prioritized and communicated to the appropriate development personnel for resolution. When a PR fix has been implemented and delivered to the T&T, the System Test team will verify that the identified problem no longer exists.

2.9 Entrance and Exit Criteria

2.9.1

Before the start of system testing, a System Test Readiness Review (STRR) will be held to determine the readiness of the project for transition to the system test phase. At this review transition (entrance) criteria will be reviewed. This criteria typically consists of the following:

a. PRs have been submitted for unresolved problems identified during M00.2 development. Known workarounds are documented in CDS and have been provided to System Test by Development and/or System Administration.

b. All certifications have been completed by Development.

c. Deviations from the Contents Letter have been communicated to the project by Development.

d. Redlined user's guides have been provided to System Test by Development.

e. The development baseline has been successfully built by Configuration Management.

f. Procedures for installing the baseline have been provided to System Administration by Development.

g. System Test has been given any necessary training by Development and/or System Administration.

h. The test system has been configured by System Administration.

i. Space has been allocated for installing the test baseline by System Administration.

j. Workarounds/impacts of pre-existing PRs have been provided to System Test by the Release Leader.

k. Test Plan and Procedures have been completed by System Test.

l. Detailed test schedule (or test prioritization) has been completed by System Test.

m. Required resources and "special" support have been identified by System Test.

Waivers will be required and evaluated for any criteria not met.

2.9.2

The completion (exit) criteria will be monitored at weekly SERB meetings and includes the completion of all identified System Test test items, and the resolution and verification of all high priority PRs. Metrics to measure System Test's progress against the plan, productivity, test failure rate, and PR status will be reported weekly to evaluate the test status.

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Section 3. Test Identification

3.1 Test Cases

Nine test cases have been identified for Release M00.2. These test cases are listed in Table 3-1.

Table 3-1. Test Case Identification

Test Case	Segment	Subsystem
MR2-0	ALL	Patch Checkout
MR2-1	SPSR	User Interface
MR2-2	SPSR	Database
MR2-3	SPSR	Scheduling
MR2-4	SPSR	Utilities
MR2-5	SPSR	Input
MR2-6	SPSR	Output
MR2-7	CCS	ALL CCS
MR2-8	ALL	Regression Test Suite

3.2 Test Items

The nine test cases have been broken down into 62 individual test items that will verify the release contents, and 48 regression test items that will ensure that all previous NCCDS capabilities still function properly. The functional test items are listed in Table 3-2. The regression test items are listed in Table 3-3. The functional test items are prioritized into High, Medium, and Low categories based on the risk (probability of high priority PRs) and the operational necessity of the function. These priorities will be used in scheduling the execution of the tests; high priority tests will be run first, then medium, then low. No test procedures will be written for those test items whose risk and operational necessity were determined to be sufficiently low. They are denoted by an ** next to the test item title in Table 3-2.

Table 3-2. System Test Activities - Schedule

Test Item	PR/NCR	Test Item Title	Priority	Planned Week
MR2-0.01	N/A	Patch Checkout	H	1
MR2-1.01	1483, 2386	Alert Acknowledgements and Comments	M	8
MR2-1.02	1873	Schedule Transmission Improvements	M	5
MR2-1.03	2514	Bandwidth Availability Window	M	6
MR2-1.04	2639, 2774	Proper Routing and Display of Operator Alerts **	L	10
MR2-1.05	2667	Vector Transmission Improvements	M	4
MR2-1.06	2791	Reset Relative Boundary	H	3
MR2-1.07	2918	Memory Leaks in Various GUI Processes	L	9
MR2-1.08	2967	PN Code Changes Saved to the Database	H	2
MR2-1.09	3096	Disappearing Operator Alerts **	L	10
MR2-1.10	3217	Customer Default Waitlist Expiration	M	5
MR2-1.11	3396	Schedule Request Process Does Not Die	M	7
MR2-1.12	3397	refRequestId in dbRequest	M	6
MR2-1.13	NCR134	Locked out Requests	M	6
MR2-1.14	NCR140 - 2669, 2950	Separate Windows for Schedule Control Database	H	3
MR2-1.15	NCR145 - 1960, 2379, 3274, 3418, 3425	Active Schedule Improvements	M	5
MR2-2.01	1140	dbSglt Table Contains Non Null Fields for Max Data Rate	L	11
MR2-2.02	1305, 1511	Add lastUpdated and updatedBy Attributes to the dbCcsUser Table	L	10
MR2-2.03	1444	Attribute Changes in dBAutomaticQueue	M	8
MR2-2.04	1447	Digital Data Rate Deleted from dBGroundTerm	L	11
MR2-2.05	1481, 2588	Add lastUpdated and updatedBy Attributes to the dbBatchBoundaryUpdate Table **	H	3
MR2-2.06	NCR142	dbTutBlock Table Removed from Database	L	11
MR2-2.07	NCR147	New Table dBRequestSubsetView	L	11

Table 3-2. System Test Activities - Schedule

Test Item	PR/NCR	Test Item Title	Priority	Planned Week
MR2-2.08	NCR151	Addition of Ka Wide Band Parameter to the Database	L	11
MR2-3.01	2232	Initial Activation Mode Error Message When Start Time in Past**	L	10
MR2-3.02	2513	Alerts for MOC and Operator Delete Requests	M	8
MR2-3.03	2631	TUT Intervals and Service Setup Time	M	4
MR2-3.04	2911	TUT Reports SSA Combining Correctly	M	4
MR2-3.05	2997	Event Tolerances When UIFC Conflicts Encountered	M	6
MR2-3.06	3092	Replace Requests Displayed Correctly in Batch Scheduling Windows **	L	9
MR2-3.07	3127	Operator-Specified Alert Period	L	9
MR2-3.08	3190	Delete Requests Referencing Requests in a Batch Schedule	M	8
MR2-3.09	3223	Automatic Transmission of Waitlisted Requests	M	4
MR2-3.10	3224	Immediate Scheduling of Waitlisted Request During Batch Activation	M	5
MR2-3.11	3245	Process Autoqueued Requests in Start Time Order	H	2
MR2-3.12	3314	SRM (10:07) when UIFC and TDRS not Mapped to Same GT	L	9
MR2-3.13	3360	Autoqueued Requests in Batch Schedules	M	7
MR2-3.14	3421	Remove Startup Dependency Between ROSE and SPSR Packages	H	1
MR2-3.15	3428	Batch Schedules Process Stability	M	5
MR2-3.16	NCR133 - 3106	Waitlist Processing Redesign	H	2
MR2-3.17	NCR136 - 2977, 3246	EET Ground Rules	M	6
MR2-3.18	NCR139	Added Pointer from dbRequest to dbEvent	M	6
MR2-3.19	NCR141	New Fields in dbSchedulerCommand Table	L	10
MR2-3.20	NCR144	AltSar Pointer Added to dbRequest	M	7

Table 3-2. System Test Activities - Schedule

Test Item	PR/NCR	Test Item Title	Priority	Planned Week
MR2-3.21	NCR146 - 2083, 3277, 3372, 3373, 3374, 3384, 3448	Proper Display of Information on Wait List Window	M	8
MR2-3.22	NCR150 - 1300, 2085, 3298, 3430	Batch Schedule Validation Upon Generation	H	3
MR2-3.23	NCR152	chainId Added to dbRequest	L	11
MR2-3.24	NCR153 - 2711, 3374	Performance and Usability of Declined List Window	H	3
MR2-3.25	NCR155- 1450, 2691, 3093, 3391, 3405, 3413	Counts Consistent in Scheduling Windows	M	8
MR2-4.01	3316	TriggerServer Message Logging **	L	10
MR2-5.01	3371	IP Validation	M	4
MR2-5.02	NCR149 - 3346	SLR and TDRS Remapping Impact Flags **	M	8
MR2-6.01	NCR132	Space Network Interoperable PN (SNIP) Code Libraries	H	2
MR2-6.02	NCR148 – 3219, 3346, 3446	TDRS Mapping Changes	H	2
MR2-6.03	NCR154	GetSHO Method is More Efficient	M	6
MR2-7.01	3158	Dual UPD Streams Not Created During CCS Startup	M	4
MR2-7.02	3353	Reset EMGM	H	3
MR2-7.03	3419	CCS Operator Review Event Utility	L	11
MR2-7.04	3380	Null Values in Event Client Object References	M	7
MR2-7.05	3388	Release Identifiers in Object Broker Scripts	H	1
MR2-7.06	NCR137	userId Column Added to dbEvent Table	M	7
MR2-7.07	NCR138	Static Information Added to dbEventSrvUifc Table	M	7

Table 3-3. Regression Test Items

Test Item	Test Item Title
AT001	Receipt of Acquisition Data
AT002	Editing of Acquisition Data
AT003	Transmission of Acquisition Data
DB001	SN Database - TDRS ID, Names, GT/SGLT sets, mappings
DB002	SN Database - Resource Availability
DB003	SN Database - MDM/HDRM
DB004	SN Database - TDRS Sets
DB005	Customer Database – General
DB006	Customer Database – SSCs
DB007	Schedule Control Database - Scheduling Priorities
DB008	Schedule Control Database - Sched Boundaries, Alerts, SA Slew Time
DB009	Schedule Control Database - Data Retention
DB010	Database Purging
EM001	SSAF - SSAR Reconfigurations
EM002	KuSAF - KuSAR Reconfigurations
EM003	KaSAF - KaSAR Reconfigurations
EM004	SMAF - SMAR Reconfigurations
EM005	MAF - MAR Reconfigurations
NCD001	NCD
NM001	User Performance Data
NM002	NM OPMs
SM001	Invalid Replace Requests
SM002	Valid Replace Requests
SM003	Delete Requests
SM004	Initial Activation Mode Schedule Transmission
SM005	Manual Mode Schedule Transmission

Table 3-3. Regression Test Items

Test Item	Test Item Title
SM006	Semi-Automatic Mode Schedule Transmission
SM007	STRS Options
SM008	Schedule Message Formats
SR001	SA/MA/SMA Scheduling Rules
SR002	EET Scheduling Rules
SR003	Tracking Scheduling Rules
SR004	Minimum Gap Scheduling Rules
SR005	TDRS Availability Scheduling Rules
SR006	SGLT Availability Scheduling Rules
SR007	UIFC Scheduling Rules
SR008	MDM/HDRM Bandwidth Scheduling Rules
SR009	Maximum Composition Data Rate Scheduling Rules
SR010	Service Level Flexibility – Service Tolerances
SR011	Service Level Flexibility – Event Tolerances
SR012	TDRS Flexibility - TDRS Selection
SR013	TSWs
SR014	Scheduling from Wait List - Automatic Mode
SR015	Scheduling from Wait List - Semiautomatic Mode
SR016	Alternate SARs / Chains
TUT001	TUT—SA
TUT002	TUT-- MAF/SMAF
TUT003	TUT--MAR/SMAR

3.3 Release Contents

The release contents implemented in Release M00.2 include 74 PRs written during previous releases. These PRs are listed in Table 3-4 along with the System Test test item assigned to test the PR fix.

Table 3-4. Release Contents/Test Item Matrix - PRs

Problem Report	Test Item	Summary of Functionality to be Tested
1140	MR2-2.01	dbSglt.maxFwdDataRate and dbSglt.maxRtnDataRate are nullable fields. They should be non-null.
1300	MR2-3.22	When a batch run completes in error, a “batch schedule has completed and is ready for review” alert is generated. Attempt to view schedule results in a dialog “can't view a schedule that completed with an error”.
1305	MR2-2.02	The Last Update field on the CCS User IDs and Passwords window never updates.
1444	MR2-2.03	TABLES: dbAutomaticQueue DESCRIPTION: Rename "pause" to "processWaitlist" and rename "pauseChange" to "queueChanged".
1447	MR2-2.04	TABLE: dbGroundTerm DESCRIPTION: Delete digitalDataRate attribute from dbGroundTerm.
1450	MR2-3.25	The ScheduleStatistics and Customer Statistics window shows negative values for the number of declined requests.
1481	MR2-2.05	Add lastUpdated and updatedBy attributes to the dbBatchBoundaryUpdate table.
1483	MR2-1.01	Change dbOpAck and dbOperatorAlert tables to support the storage of acknowledgements separate from operator comments.
1511	MR2-2.02	Add lastUpdated and updatedBy attributes to the dbCcsUser table.
1873	MR2-1.02	Improve performance of Schedule and Vector Transmission windows
1960	MR2-1.15	Events aren’t automatically removed from the Active Schedule window when the operator deletes an event via that window.
2083	MR2-3.21	In the Wait List window, if you click Schedule and then schedule the selected request, the Schedule button stays enabled.
2085	MR2-3.22	The operator is not given a reason why a batch schedule fails.
2232	MR2-3.01	The error message generated when an Initial Activation mode schedule transmission contains an event whose start time is in the past is inaccurate.
2379	MR2-1.15	The performance of the Active Schedule window is slow.

Table 3-4. Release Contents/Test Item Matrix - PRs

Problem Report	Test Item	Summary of Functionality to be Tested
2386	MR2-1.01	Acknowledging multiple alerts at once causes the alerts window to die.
2513	MR2-3.02	Automatic schedule update alerts are not generated for operator-initiated delete requests.
2514	MR2-1.03	The Incrementally Allocated Resource Summary graphical window does not update.
2588	MR2-2.05	In the SCDB, the Last Updated by field does not reflect the operator when the schedule boundary or TUT generation parameters are modified.
2631	MR2-3.03	TUT intervals for SA services include 2 minutes for the SA slew time vs. the 90 second SA slew time specified in the database.
2639	MR2-1.04	When logged into an account that has no action alerts, when any other operator gets an alert, all alerts (just info in this case) disappear.
2667	MR2-1.05	On the Vector Transmissions display, the messages sent counters lag the actual messages sent.
2669	MR2-1.14	The Scheduling Control Database window contains functions for multiple operators which does not allow for privileges to be set up properly.
2691	MR2-3.25	When viewing a schedule in the Schedule Editor window, the totals for Active Events, Batch Events, and Requests don't match the totals for the same schedule in the Batch Schedules window.
2711	MR2-3.24	Add the Batch ID to the Declined Request window
2774	MR2-1.04	When the same type of information alert is generated, only the most current alert remains on the window.
2791	MR2-1.06	On the Reset Boundary UI, clicking the Set to Absolute button performs the same actions as if the Set to Relative button was clicked too.
2911	MR2-3.04	TUT reports SA2 available when SSA Combining services are scheduled.
2918	MR2-1.07	Memory leaks due to improper usage of the ostrstream class exist in the classes listed in the comments.

Table 3-4. Release Contents/Test Item Matrix - PRs

Problem Report	Test Item	Summary of Functionality to be Tested
2950	MR2-1.14	When the TUT "Last Updated by" field contained a long process/username (e.g., BACKGROUND PROCESS), the hhmmss field was overwritten by the Wait List "Last Updated by" field.
2967	MR2-1.08	Changed S-band PN code in the Customer (SIC) Entry window, clicked save, and received a dialog box "No modifications made. Nothing saved."
2977	MR2-3.17	EET setup time is not being taken into account when attempting to use event tolerance to schedule a request.
2997	MR2-3.05	For full-support customers only, when event plus tolerance is used certain combinations of services do not schedule as close together as they should.
3092	MR2-3.06	The Schedule Activation window does not list events that are being replaced as events that will be deleted.
3093	MR2-3.25	In the Schedule Editor window, declined requests don't show up in the count of requests.
3096	MR2-1.09	The data on the Operator Alerts GUI can disappear for up to an hour.
3106	MR2-3.16	In semiautomatic mode, new waitlist schedules keep getting generated.
3127	MR2-3.07	“Automatic request received during lockout” alerts are generated for every automatic request received in that interval, even when there is no lockout.
3158	MR2-7.01	CCS is transmitting dual/double streams of UPD to all customers.
3190	MR2-3.08	Deleting a request from a batch schedule gets an exception if the schedule is deleted.
3217	MR2-1.10	The Expiration Time in the Create Waitlist Req window is not the requested Start Time of the Declined SAR minus the Default Waitlist Expiration for that customer.
3219	MR2-6.02	Transmissions containing Replace Requests for events on the active schedule impacted by TDRS mapping changes are created with a mode (Automatic) that "contradicts" the state (Review).

Table 3-4. Release Contents/Test Item Matrix - PRs

Problem Report	Test Item	Summary of Functionality to be Tested
3223	MR2-3.09	When a waitlisted sar gets scheduled the transmission that gets created is an "initial activation" mode transmission, requiring review.
3224	MR2-3.10	A waitlisted event was coming off the waitlist because another event was deleted however the operator hit schedule trying to make the 7minute SAR interval this produced a duplicated event with the same request ID.
3245	MR2-3.11	Events in the autoqueue are [processed on a first in first out basis (FIFO).
3246	MR2-3.17	Two Ku-band end-to-end test events can be scheduled simultaneously on the same SGLT, violating EET SRD ground rule 5.4.5.5.2.b.2.
3274	MR2-1.15	Events deleted from the UI remain on the Active Schedule UI.
3277	MR2-3.21	The Waitlist UI appears to calculate the expiration time from the creation time vice from the nominal event start time.
3298	MR2-3.22	Automatic waitlist processing is adversely impacted when an activated event referenced by a waitlisted Replace Request is deleted.
3314	MR2-3.12	02:45 SRM is received when a 10:07 is expected.
3316	MR2-4.01	A long duration test that started on 148/2130z and on 152/1200z we found that 680 events were stuck on the auto-queue.
3346	MR2-5.02	Rescheduling events after a TDRS Mapping needs improvement.
3353	MR2-7.02	Reconfigurations are rejected with 'GCM Validation Data Base Error' after the CCS package is switched from one HP server to another.
3360	MR2-3.13	Including autoqueued requests in a batch schedule can result in transmission errors.
3371	MR2-5.01	IP validation is not complete for all message types.
3372	MR2-3.21	SARs that are head of a chain are not displayed in the Wait List or Declined List UIs if the Request Event Filter specifies ASARs.
3373	MR2-3.21	The Referenced Request ID is not displayed on the Wait List window.

Table 3-4. Release Contents/Test Item Matrix - PRs

Problem Report	Test Item	Summary of Functionality to be Tested
3374	MR2-3.21	Requests in Wait List and Declined List windows are not sorted.
3380	MR2-7.04	EVCL has several instructions that would use Null values as object references.
3384	MR2-3.21	SARs at the bottom of the Wait List window when it is filtered for only SARs are overwritten if the Request Event Filter window specifies Replace Requests.
3388	MR2-7.05	The Release Identifier is currently hard-coded in the Object Broker script files.
3391	MR2-3.25	SCHEDULE ANALYSIS WINDOW does not need 'CONFLICTS' or 'ACTIVATED TIME' columns.
3396	MR2-1.11	ScheduleRequestProcess: when requests are re-read from the database for validation per PR 3087, the process may crash if requests are purged from the database since the ScheduleRequestWindow was opened/reloaded.
3397	MR2-1.12	In the ScheduleRequestProcess, the ScheduleRequestWindow loads/reloads too slowly to meet SRD 9.3.7d. This is expected be a multi-faceted solution for the goal of increasing performance.
3405	MR2-3.25	Some of the totals for the columns in the Customer Schedule Summary window are not lined up with their columns.
3413	MR2-3.25	In the Request Statistics subwindow in the Customer Statistics window, the counts are wrong for chains in the following scenario: when the head of a chain is declined and a lower member schedules, the statistics count both of them.
3418	MR2-1.15	The values in the A/R column in the Active Schedule window are mis-aligned when the PC column contains 2 digits.
3419	MR2-7.03	The CCS Operator Review_Event utility prints only one event per page when the number of events is greater than 999.
3421	MR2-3.14	Remove startup dependency between the ROSE & SPSR packages.
3425	MR2-1.15	In the Request Pool filter, requests that exactly match the Maximum Start and Maximum Creation are not included in the Request Pool.

Table 3-4. Release Contents/Test Item Matrix - PRs

Problem Report	Test Item	Summary of Functionality to be Tested
3428	MR2-3.15	Batch Scheduling windows intermittently blow away upon Activating a batch or Canceling the activation of a batch.
3430	MR2-3.22	Events are not sorted in chronological order by Start Time in the Schedule Editor window. They are also not sorted this way in the Declined List window.
3446	MR2-6.02	After a TDRS remapping, two events were scheduled without tolerances and should have been held until the rule set kicked off.
3448	MR2-3.21	If you select 2 request types (SAR, ALT, or Replace) in the RequestPoolWindow, you will get all requests of the first type selected versus applying any other filtering or canned time/state conditions for that type.

23 PRs were fixed in a previous release after the baseline for Release M00.2 was built. 16 of these PRs will be merged into M00.2 and 7 PRs will be rolled up into M00.2. These PRs will be verified using procedures already written.

The release contents implemented in Release M00.2 also include 22 NCRs. These NCRs are listed in Table 3-5 along with the System Test test item assigned to test the NCR.

Table 3-5. Release Contents/Test Item Matrix - NCRs

NCC Change Report	Test Item	Summary of Functionality to be Tested
132	MR2-6.01	Implement final NCCDS changes to support SNIP Code Libraries for WSC ICD changes in CCR-451-ICD-15.
133	MR2-3.16	Redesign of Waitlist processing.
134	MR2-1.13	Show requests that are locked out by dbLockoutWindows as “LockedOut” on the Schedule Request Window.
136	MR2-3.17	Change software to implement revised EET Service requirement (5.4.5.5) in 451-SRD-NCCDS/1998 Rev 2.
137	MR2-7.06	Add a UserId(Char) column to the dbEvent database table to decrease the number of database records that are read by the CCS server when the CCS schedule is created.

Table 3-5. Release Contents/Test Item Matrix - NCRs

NCC Change Report	Test Item	Summary of Functionality to be Tested
138	MR2-7.07	Add static information to the dbEventSrvUifc database table to decrease the number of database records that are read by the CCS server to create the CCS schedule.
139	MR2-3.18	Add pointer from dbRequest to dbEvent for the active event.
140	MR2-1.14	Add Next Generation Time to Scheduling Control Database window for TUT.
141	MR2-3.19	Add new fields to dbSchedulerCommand table
142	MR2-2.06	Remove table dbTutBlock from database schema
144	MR2-3.20	Add pointer from dbRequest to the related ASAR.
145	MR2-1.15	Increase performance, stability, and validity of Active Schedule Window.
146	MR2-3.21	Properly display all information on the Wait List Window (accessed from the Active Schedule GUI).
147	MR2-2.07	Add a subset class view for the dbRequest table to increase performance in persistence.
148	MR2-6.02	Redesign system response to TDRS mapping changes.
149	MR2-5.02	Split the dbEvent impact flag into an SLR impact flag and a TDRS re-mapping impact flag.
150	MR2-3.22	Validate batch schedule input just before generation and display the first validation error to the operator. Allow the operator to adjust the schedule input appropriately and resubmit the schedule for generation.
151	MR2-2.08	Add a parameter to the database to be used to support the implementation of Ka Wide Band Return services.
152	MR2-3.23	Add chainId to dbRequest.
153	MR2-3.24	Increase the performance and usability of the Declined List window.
154	MR2-6.03	Make dbEvent::GetSho more efficient by using sqlQuery of dbSho instead of the Persistence relationship at base class level (dbOutMessage).
155	MR2-3.25	Make the counts for all Batch Schedule windows consistent and useful.

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Abbreviations and Acronyms

The following is list of terms and abbreviations found in this document and in other test-related documentation and reference documents.

ACQ/TRK	acquisition/tracking
ACRS	automated conflict resolution system
AIS	automated information system
ATRR	acceptance test readiness review
ATSC	Allied Signal Technical Services Corporation
BVT	build verification test
CCB	configuration control board
CCR	configuration change request
CCS	communications and control segment
CDR	critical design review
CM	configuration management
CNMOS	consolidated Network and Mission Operations Support
COTS	commercial off the shelf
CSC	Computer Sciences Corporation
CSCI	computer software configuration item
CSOC	Consolidated Space Operations Contract
CSS	Nascom Control and Status System
CTB	communication test block
CTM	communication test message
DB	database
DBA	database administrator
DFCD	data format control document
DG	data group
DIS	data interface system
DQM	data quality monitoring

DSID	data stream ID
DTS	daily test summary
EET	end-to-end test
EIF	engineering interface
FDF	Flight Dynamics Facility
FTP	file transfer protocol
FW	firewall
GCM	ground control message
GCMR	ground control message request
GSFC	Goddard Space Flight Center
GUI	graphical user interface
GT	ground terminal
HA	high availability
HDRM	high data rate multiplexer
I&A	identification and authentication
I&T	integration and test
I/O	input/output
ICD	interface control document
IFL	interfacility link
IIR	interface incidence report
IIRV	improved interrange vector
INPG	interim NCC protocol gateway
ITRR	integration test readiness review
JISTT	Joint Integration and System Test Team
JPIC	Joint Process Improvement Committee
JSC	Johnson Space Center
KaSA	Ka-band single access
KaSAF	Ka-band single access forward
KaSAR	Ka-band single access return
KuSA	Ku-band single access

KuSAF	Ku-band single access forward
KuSAR	Ku-band single access return
LAN	local area network
LI	local interface
MA	multiple access
MAF	multiple access forward
MAR	multiple access return
MDM	multiplexer/demultiplexer
MO&DSD	Mission Operations and Data Systems Directorate
MOC	Mission Operations Center
NASA	National Aeronautics and Space Administration
Nascom	NASA communications
NCC	Network Control Center
NCCDS	NCC Data System
NCC 98	Network Control Center Data System 1998
NCD	NCC Central Delogger
NCR	NCC change request
NDS	Networks and Data Services
NSM	Network and System Manager
NES	Nascom event schedule
NFE	NCC front-end
NPG	NCC Protocol Gateway
NRR	Nascom reconfiguration request
NTS	Network Testing System
OCR	Operations Control Room
ODM	operations data message
OET	Operations Evaluation Testing
OPM	operations message
PR	problem report
RID	review item disposition

RMA	reliability/maintainability/availability
RR	requirements review
SA	single access
SAR	schedule add request
SAS	service accounting segment
S/C	sensitivity/criticality
SCD	small conversion device
SDE	software development environment
SDF	software development facility
SDPF	Sensor Data Processing Facility
SGLT	space-to-ground link terminal
SHO	scheduled service order
SHO ID	scheduled service order identification
SIC	spacecraft identification code
SLR	service level report
SMA	enhanced multiple access
SMAF	enhanced multiple access forward
SMAR	enhanced multiple access return
SN	space network
SPSR	service planning segment replacement
SQL	structured query language
SRIS	system resources infrastructure segment
SRD	system requirements document
SRM	schedule result message
SRR	system requirements review
SSA	S-band single access
SSAF	S-band single access forward
SSAR	S-band single access return
SSC	service specification code
STDN	Spaceflight Tracking and Data Network

STGT	Second TDRSS Ground Terminal
STRR	system test readiness review
STRS	schedule transmission rule set
SUPIDEN	support identification
SWO	security watch officer
T&T	Test and Training
TBD	to be determined
TBS	to be supplied
TCP/IP	transmission control protocol/internet protocol
TDRS	tracking and data relay satellite
TDRSS	Tracking and Data Relay Satellite System
TLAS	TDRS look angle system
TNC	TDRS Network Controller
TRR	test readiness review
TRS	transmission rule set
TSW	TDRS scheduling window
TT&C	tracking, telemetry and command
TUT	TDRSS Unscheduled Time
UPD	user performance data
User ID	user identification
USM	user schedule message
UTC	coordinated universal time
VIC	vehicle identification code
VID	vehicle ID
VT	vector translator
VTRS	vector transmission rule set
WSC	White Sands Complex
WSGTU	White Sands Ground Terminal Upgrade
WWW	World Wide Web

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